

AMENDMENT TO THE CLAIMS

1. (Currently amended) An apparatus, comprising:

a heat transfer portion to receive heat from a heat source and to transfer heat from the heat source; and

a remote heat sink adjacent to the heat transfer portion to remove heat from the heat transfer portion, the remote heat sink including:

a solid metal portion that extends away from the heat transfer portion;[[,]] and

a porous medium adjacent coupled to the solid metal portion, wherein the porous medium extends away from the solid metal portion such that a thermal boundary layer exists in substantially the entire porous medium.

2. (Original) The apparatus of claim 1, further comprising:

a blower fan to force air toward the remote heat sink.

3. (Original) The apparatus of claim 2, wherein the blower fan produces a pressure differential across the remote heat sink.

4. (Original) The apparatus of claim 1, wherein the solid metal portion includes:

a plurality of solid metal portions that extend away from the heat transfer portion.

5. (Original) The apparatus of claim 4, wherein the solid metal portions are fins.

6. (Original) The apparatus of claim 5, wherein the fins are substantially parallel to each other.

7. (Original) The apparatus of claim 5, wherein the porous medium is attached between two fins.

8. (Original) The apparatus of claim 7, wherein the attachment is via compression.

9. (Original) The apparatus of claim 7, wherein the attachment is via a thermally conductive adhesive.

10. (Original) The apparatus of claim 1, wherein the heat source is a processor.
11. (Original) The apparatus of claim 1, wherein the heat transfer portion is at least one of a heat pipe, a pumped loop, and a refrigeration loop.
12. (Original) The apparatus of claim 1, wherein the porous medium is a metal foam.
13. (Original) The apparatus of claim 1, wherein the porous medium has a porosity near ninety percent.
14. (Original) The apparatus of claim 1, wherein the porous medium has a pore density of five pores per inch.
15. (Currently amended) A method, comprising:
transferring heat from a heat source using a heat transfer device adjacent to the heat source; and
dissipating heat from the heat transfer device using a remote heat sink adjacent to the heat transfer device, the remote heat sink having:
a solid metal portion that extends away from the heat transfer portion;[[,]] and
a porous medium adjacent coupled to the solid metal portion, wherein the porous medium extends away from the solid metal portion such that a thermal boundary layer exists in substantially the entire porous medium.
16. (Original) The method of claim 15, further comprising:
using forced convection to increase the dissipation of heat.
17. (Currently amended) The method of claim 16, wherein the forced convection is accomplished using a blower fan operable to direct air through the porous medium such that the air enters a first side of the porous medium and exists a second and opposing side of the porous medium.

18. (Original) The method of claim 16, wherein the porous medium is a metal foam.
19. (Currently amended) A system, comprising:
 - a substrate;
 - an electronic component mounted on the substrate;
 - a heat transfer device to receive heat from the electronic component and to transfer heat from the electronic component;
 - a remote heat sink adjacent to the heat transfer device to remove heat from the heat transfer device, the remote heat sink including:
 - a plurality of fins extending away from the heat transfer device; and
 - a porous medium attached between the plurality of fins such that a thermal boundary layer exists in substantially the entire porous medium;
 - a blower fan to expel heated air from the system; and
 - a battery adapter to provide battery power to at least one of the electronic component and the blower fan.
20. (Original) The electronic system of claim 19, wherein the porous medium is a metal foam.
21. (Original) The electronic system of claim 19, wherein the porous medium has a porosity near ninety percent.
22. (Original) The electronic system of claim 19, wherein the porous medium has a pore density of five pores per inch.
23. (Original) The electronic system of claim 19, wherein the substrate is a circuit board.
24. (Original) The electronic system of claim 19, wherein the electronic component is a processor.

25. (Original) The electronic system of claim 19, wherein the electronic system is a portable computer.